

Experiences of Final-Year Information Technology Students in Work-Integrated Learning

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Abstract

Work-integrated learning (WIL) is widely used in higher education to enhance graduate employability by bridging the gap between academic learning and professional practice. However, limited research has examined how students experience learning within client-based WIL contexts, particularly in information technology (IT) education in the Global South. This study addresses this gap by examining how final-year IT students experience experiential learning during a client-based WIL project at a private higher education institution (HEI) in South Africa. Guided by Kolb and Kolb's experiential learning theory, a qualitative case study design was employed. Data were generated through two focus group discussions with six final-year IT students and a semi-structured interview with an industry client. Reflexive thematic analysis was used to examine students' learning experiences. The findings demonstrate that experiential learning in client-based WIL is a dynamic and iterative process shaped by theory–practice integration, reflective engagement, client interaction, collaborative work, and structural programme conditions. These processes contribute to the development of both technical competencies and professional skills, including communication, adaptability, and professional identity. However, challenges related to communication practices, time management, and inconsistencies in project conditions were also identified. The study contributes to understanding experiential learning processes within IT-focused WIL contexts and offers practical insights for improving programme design, supervision, and student support. While the study is limited to a single institutional context and a small sample, the findings provide a basis for further research across diverse WIL environments.

Keywords: work-integrated learning; experiential learning theory; graduate employability; student–client collaboration

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Introduction

Work-integrated learning (WIL) has become a central feature of higher education globally, particularly in professionally oriented disciplines such as information technology (IT) where graduates are expected to transition effectively into complex and rapidly evolving work environments. In the South African and broader African higher education context, WIL is increasingly positioned as a strategic response to persistent concerns around graduate employability, skills mismatches, and the readiness of graduates to meet industry expectations.

Graduate employability remains a pressing concern within higher education, with ongoing debates about whether academic programmes adequately prepare students for the realities of professional practice. While WIL is widely promoted as a mechanism for bridging the gap between theory and practice, scholars have raised concerns regarding the uneven implementation of WIL, variations in student experiences, and the extent to which WIL genuinely enhances employability outcomes. These tensions are particularly evident in resource-constrained contexts, where access to quality placements, industry partnerships, and structured support may vary significantly.

Recent studies in the African context highlight both the potential and limitations of WIL. For example, Lubbe and Svensson (2022) demonstrate how project-based WIL models can create mutually beneficial partnerships between universities and industry, while Dipitso (2021) emphasises the importance of professional associations and industry collaboration in strengthening employability outcomes. Similarly, Mabungela and Mtiki (2024) report a positive relationship between academic performance and practical application, suggesting that WIL contributes to both academic development and workplace readiness. Collectively, these studies indicate that while WIL holds promise for enhancing employability, its effectiveness is highly dependent on the quality of implementation, institutional support, and industry engagement.

Within IT education, these challenges are further amplified by the nature of the discipline. IT students are required to integrate knowledge across multiple domains, engage in project-based problem-solving, and adapt to rapidly changing technologies and client requirements. Client-based WIL projects, in particular, introduce complex learning environments characterised by real-world constraints, shifting expectations, and collaborative dynamics. Research on project-based learning supports its value in developing essential skills such as teamwork, planning, and collaboration (Funke 2022), while studies in ICT education highlight the role of industry-integrated curricula in enhancing student motivation and engagement (Mielikäinen 2021). Industry perspectives further suggest that longer-term, workplace-integrated projects are more effective in preparing graduates for professional practice, although stronger alignment between academia and industry remains necessary (Ahmed, Grollo, and Czech 2024).

Despite these contributions, existing research on WIL has largely focused on outcomes such as employability indicators, skill acquisition, and programme effectiveness. Less

attention has been given to the processes of learning, particularly how students engage with experience, reflect on challenges, and adapt their understanding within real-world project contexts. This gap is significant, as understanding these learning processes is essential for designing WIL programmes that move beyond surface-level skill development towards meaningful and transformative learning experiences. Studies by Jackson, Dean, and Eady (2025) and Jackson and Dean (2023) further highlight that access to WIL opportunities and learning outcomes can vary across student groups and programme types, reinforcing the need for deeper investigation into how learning unfolds within specific WIL contexts.

Experiential learning theory (ELT) provides a useful lens for addressing this gap. Kolb and Kolb's (2018, 2022) ELT conceptualises learning as a cyclical process involving concrete experience, reflective observation, abstract conceptualisation, and active experimentation. This framework enables a deeper exploration of how students transform practical experiences into knowledge and professional competence. Kolb and Kolb (2022) highlight the enduring relevance of this model in higher education, while Mutanga (2021) demonstrates its applicability in ICT-focused WIL contexts, where students reported significant learning gains through experiential engagement. In client-based WIL environments, where learning is iterative and shaped by real-world interaction, ELT offers a valuable perspective for understanding how students navigate and make sense of their learning experiences.

Against this backdrop, the present study examined how final-year IT students experienced experiential learning within a client-based WIL project at a private higher education institution in South Africa. The study makes three key contributions to the field. First, it advances theoretical understanding by applying ELT to examine learning processes within IT-focused WIL contexts. Second, it offers practical insights for improving WIL programme design, supervision, and student support in client-based projects. Third, it contributes to ongoing policy and curriculum discussions in South African higher education regarding the role of WIL in enhancing graduate employability and addressing skills gaps.

The study was guided by the following research question: How do final-year IT students experience experiential learning during client-based work-integrated learning projects? In addition, the following sub-question was investigated: How do these experiences influence students' professional and learning development?

Literature Review

WIL in Higher Education

WIL has increasingly been positioned as a key strategy for enhancing graduate employability within higher education systems globally. However, its effectiveness is shaped by multiple interconnected factors, including policy frameworks, theoretical foundations, curriculum design, and industry partnerships. To understand how

experiential learning unfolds within client-based WIL contexts, it is necessary to examine these dimensions in an integrated manner rather than in isolation.

WIL constitutes a critical component of higher education, integrating academic instruction with authentic workplace-based experiences. This integration enables students to apply theoretical knowledge within professional contexts, thereby enhancing both learning and employability outcomes. Contemporary developments in WIL have introduced technology-mediated approaches, such as e-internships and digital service learning, which provide scalable and sustainable alternatives to traditional placements. While these models have been shown to yield comparable learning outcomes, they require additional institutional and pedagogical support to ensure effectiveness (Ferns, Rowe, and Zegwaard 2021).

The effectiveness of such programmes is largely determined by curriculum design, institutional support, and sustained engagement with industry partners. Flexible programme structures and adequate resourcing are essential to ensure meaningful student participation and positive outcomes (Jackson 2024). Within the European Higher Education Area, WIL has been positioned as a mechanism for addressing labour market demands by fostering both technical and transferable skills, although students often experience tensions in balancing academic and professional responsibilities (Curto-Reverte et al. 2025). Similarly, in the South African context, WIL was introduced to bridge the gap between theoretical knowledge and real-world industry practice, reinforcing the role of higher education in preparing work-ready graduates (Mutanga 2021). Central to this process are strong industry–education partnerships, which underpin the development of employability skills and facilitate smoother transitions into the workplace (Bayerlein et al. 2021; Jappie 2022). This positioning is further reinforced by national higher education policies that emphasise work-readiness and industry alignment as key outcomes of university education.

However, despite these recognised benefits, the scalability and consistency of WIL implementation remain uneven across institutions, particularly in contexts with limited resources and high student enrolments. This raises important questions regarding how WIL models can be effectively adapted to different disciplinary and institutional contexts.

While WIL provides the structural foundation for integrating academic and workplace learning, its effectiveness depends on the underlying learning processes through which students engage with experience.

WIL and Experiential Learning

The theoretical underpinning of WIL is commonly associated with Kolb and Kolb's ELT, which conceptualises learning as a cyclical process comprising concrete experience, reflective observation, abstract conceptualisation, and active experimentation. This framework emphasises the importance of engaging students in

authentic tasks, followed by structured reflection and application, to deepen learning and accommodate diverse learning styles (Haritha and Rao 2024).

In WIL contexts, students engage in real-world workplace activities that serve as concrete experiences, which are then critically reflected upon and integrated into broader conceptual understanding. Empirical studies support the applicability of this model. For instance, Mutanga (2021) found that ICT students reported significant learning gains through WIL participation, while Mesuwini, Thaba-Nkadimene, and Kgomotlokoa (2021) demonstrated that lecturers engaged in WIL similarly benefited through practical exposure, collaboration, and skills development.

Despite the strong theoretical grounding, critiques of experiential learning within WIL contexts suggest that reflection is not always systematically facilitated, potentially limiting the depth of learning achieved. Furthermore, while ELT provides a useful lens, it does not fully account for the complexities introduced by technology-mediated and large-scale WIL implementations. Emerging research highlights the growing importance of reflective practice, employability skills, and self-efficacy, while pointing to opportunities for further exploration of digital and ICT-integrated WIL models (Amarathunga 2024), thus demonstrating the need to better understand how experiential learning principles are operationalised within contemporary, technology-enhanced WIL environments.

These experiential learning processes are closely linked to broader debates on graduate employability, which remains a central justification for WIL implementation.

WIL and Graduate Employability

A substantial body of research highlights the contribution of WIL to graduate employability. In the South African context, participation in such programmes has been associated with significantly improved employment outcomes, including notable reductions in graduate unemployment (Jonck 2014). Beyond employment access, WIL enhances key graduate attributes such as communication, teamwork, time management, and professional identity (Dwesini 2017), which are essential for navigating complex workplace environments.

WIL also facilitates the transfer of knowledge across diverse professional contexts, enabling graduates to adapt more effectively to industry demands (Rambe 2018). Empirical evidence further indicates a positive correlation between WIL participation and employment success, with graduates more likely to secure relevant positions (Mabungela and Mtiki 2024; Suresh and Ananda 2024). However, much of this evidence is based on short-term or self-reported outcomes, with limited longitudinal research examining sustained career progression.

Importantly, different forms of WIL offer differentiated benefits. Workplace-based models strengthen job readiness, while non-traditional and global WIL initiatives foster

adaptability and collaborative skills (Jackson and Dean 2023). The integration of WIL into the curriculum therefore contributes to holistic student development by combining academic knowledge with practical experience, supporting both technical competencies and soft skills such as communication, ethical awareness, and digital literacy (Srivastava and Haghi 2024). Nevertheless, the extent to which these employability outcomes are consistently achieved across disciplines, particularly within ICT programmes, remains underexplored.

Within this employability agenda, partnership-based and client-driven WIL models have emerged as key mechanisms for operationalising experiential learning in practice.

Client-Based and Partnership Models in WIL

Partnership-based models represent a key approach to implementing WIL within higher education, embedding authentic work experiences into academic programmes through collaboration with industry stakeholders. Evidence suggests that such approaches yield positive outcomes, including high levels of student satisfaction and improved employment prospects (Taylor and Govender 2017). Additionally, these partnerships provide mutual benefits, including talent pipelines for industry and enhanced curriculum relevance for institutions (Govender and Taylor 2015).

Project-based WIL has emerged as a particularly effective model, enabling students to engage in complex, real-world problems that require interdisciplinary knowledge and collaboration. These “projects of consequence” (Piggott and Winchester-Seeto 2020, 2) promote critical thinking, problem-solving, and the application of theory to practice (Hayes and Cejnar 2020; Piggott and Winchester-Seeto 2020). Furthermore, collaboration between universities, students, and industry partners creates mutually beneficial outcomes by aligning educational objectives with industry needs (Lubbe and Svensson 2022).

Effective implementation relies on strong stakeholder engagement, often conceptualised as a tripartite relationship between universities, students, and industry partners. This collaboration supports curriculum co-creation, enhances mentorship opportunities, and strengthens employability outcomes, particularly for disadvantaged students (Mayombe 2022; Ruskin and Bilous 2021).

However, sustaining such partnerships presents ongoing challenges, including differing stakeholder expectations, resource constraints, and administrative complexities. In practice, these challenges can limit the scalability and long-term sustainability of partnership-based WIL models, particularly in resource-constrained environments.

Despite these benefits, the implementation of WIL is not without challenges, which can significantly shape students’ learning experiences.

Challenges in WIL

Despite its recognised benefits, WIL implementation is associated with several systemic and operational challenges. These include resource constraints, competing stakeholder priorities, and legal and ethical considerations, all of which can hinder effective programme delivery (Jackson 2024). Additional pressures, such as increasing student enrolments, limited placement opportunities, and academic staff turnover further complicate coordination (Doolan et al. 2019).

Assessment within WIL contexts presents difficulties, especially in aligning academic requirements with workplace experiences. Greater industry involvement in assessment design and improved alignment of reflective activities with practical tasks are necessary to enhance learning outcomes (Lasen et al. 2018; Luk and Chan 2024).

Students also face a range of practical challenges, including delays in placement allocation, insufficient digital and communication skills, and difficulties adapting to workplace expectations. Misalignment between academic requirements and workplace practices, particularly in relation to documentation and project management, further exacerbates these issues (Soobramoney and Govender 2025). Additionally, international students encounter unique barriers, highlighting the need for more inclusive and context-sensitive WIL frameworks (Vu, Ferns, and Ananthram 2021).

These challenges suggest that, while WIL is conceptually well-established, its implementation remains complex and uneven, requiring ongoing refinement and contextual adaptation. Furthermore, these challenges are particularly pronounced in ICT education, where curriculum alignment with industry demands remains a persistent concern.

WIL and ICT Curriculum Alignment

The alignment between higher education curricula and industry requirements remains a persistent concern, particularly within ICT disciplines. Graduates often face difficulties entering the workforce due to mismatches between academic preparation and industry expectations (Ohei, Brink, and Abiodun 2019). Addressing this gap requires curriculum reform that prioritises practical skill development and stronger collaboration with industry stakeholders.

Industry involvement in curriculum design plays a crucial role in ensuring relevance and responsiveness to labour market needs. Through mentorship, project-based learning, and placement opportunities, industry partners contribute to the development of work-ready graduates (Mayombe 2022). Furthermore, integrating real-world experiences into academic programmes enhances student motivation and engagement, particularly when industry representatives are actively involved (Mielikäinen 2021).

Effective curriculum alignment is underpinned by collaborative approaches that involve universities, students, and industry stakeholders in co-creation processes. Such approaches ensure that programmes remain responsive to evolving technological and professional demands while supporting graduate employability (Grantham and Iachizzi 2024; Ruskin and Bilous 2021).

Despite the body of research on WIL, several critical gaps remain. While existing studies consistently demonstrate the value of WIL in enhancing employability and skill development, much of this research emphasises outcomes rather than the underlying learning processes through which these outcomes are achieved. In particular, limited attention has been given to how students engage with, reflect on, and make sense of their experiences within complex, real-world client-based project environments.

This gap is especially evident within IT education, where WIL frequently takes the form of project-based and client-driven models characterised by uncertainty, collaboration, and evolving requirements. Although ELT is widely acknowledged as a relevant theoretical lens, its application in examining student learning in such dynamic WIL contexts remains underexplored.

Furthermore, while the importance of industry partnerships and curriculum alignment is well established, less is known about how these structural elements shape students' lived learning experiences, particularly in resource-constrained higher education settings. As a result, there is a need for more contextually grounded research that moves beyond measuring employability outcomes to examining how learning unfolds in specific WIL environments.

Taken together, the literature suggests that while WIL is widely recognised as a mechanism for enhancing graduate employability, its effectiveness is contingent on how learning processes are structured, supported, and experienced within specific contexts. This underscores the need for research that moves beyond outcome-based evaluations to examine how experiential learning unfolds in client-based environments.

Theoretical Framework

This study is underpinned by Kolb and Kolb's (2018, 2022) ELT which conceptualises learning as a dynamic and cyclical process through which knowledge is constructed through experience. Developed in response to transmission-based models of education, ELT emphasises the role of active engagement, reflection, and experimentation in meaningful learning. Kolb and Kolb (2018) propose that effective learning occurs when individuals move through four interrelated stages: concrete experience, reflective observation, abstract conceptualisation, and active experimentation.

The theory draws on the foundational work of Dewey, Lewin, and Piaget, positioning experience at the centre of learning and highlighting the importance of reflection in

transforming experience into knowledge (Murrell and Claxton 1987). Rather than viewing learning as the passive absorption of information, ELT frames learners as active agents who construct understanding through interaction with real-world situations and continuous adaptation based on reflection and feedback. This perspective is particularly relevant in professional and practice-based education, where learning occurs through engagement with authentic tasks and social contexts.

Kolb and Kolb's ELT has been widely applied in studies of WIL, professional education, and project-based learning environments. Research in engineering and IT education demonstrates that client-based and workplace learning contexts provide rich opportunities for concrete experiences that prompt reflective observation and conceptual refinement (Grant, Hanlon, and Young 2024; Haritha and Rao 2024). Within WIL settings, students are required to apply theoretical knowledge to practical challenges, evaluate the effectiveness of their actions, and adapt their approaches in response to workplace feedback, reflecting the iterative nature of experiential learning. Studies applying ELT in WIL contexts further highlight its usefulness in explaining how students develop professional identity and confidence through sustained engagement with real-world projects (Haritha and Rao 2024; Kolb and Kolb 2018).

While alternative reflective frameworks, such as Gibbs's reflective cycle (Gibbs 1988), emphasise structured reflection on experience, Kolb and Kolb's ELT was selected for this study owing to its broader and more integrative focus on the transformation of experience into knowledge. Unlike Gibbs's model, which primarily centres on reflective processes, Kolb and Kolb's framework incorporates action, reflection, conceptual understanding, and experimentation as interconnected stages of learning. This renders it particularly well-suited to client-based WIL contexts in IT, where students are required not only to reflect on their experiences but also to apply, test, and refine their learning in response to real-world project demands and client feedback.

In the context of this study, each stage of Kolb and Kolb's experiential learning cycle is reflected in the structure of the client-based WIL project. Concrete experience is evident in students' direct engagement with real clients, project requirements, and authentic problem-solving tasks. Reflective observation occurs as students critically evaluate challenges encountered during the project, including communication difficulties, missed deadlines, and team dynamics. Abstract conceptualisation is reflected in students' ability to integrate knowledge across multiple academic modules and develop new understandings of both technical and professional practices. Active experimentation is demonstrated through the iterative refinement of solutions, where students adapt their approaches in response to client feedback, testing revised strategies in subsequent project cycles.

This operationalisation of Kolb and Kolb's cycle facilitates a more nuanced examination of learning processes within WIL, moving beyond a focus on outcomes to explore how learning unfolds through experience, reflection, and adaptation. In this study, ELT

provides an analytical lens for interpreting how final-year IT students experience learning during client-based WIL projects. The framework is used to analyse how students engage in concrete experiences, reflect on challenges, conceptualise learning across disciplinary boundaries, and actively experiment with revised solutions. Furthermore, the theory informs the interpretation of the study's findings by linking key themes, such as theory–practice integration, reflective learning, client engagement, teamwork, and professional skill development to different stages of the experiential learning cycle (Haritha and Rao 2024; Kolb and Kolb 2018).

By applying Kolb and Kolb's ELT in this way, the study contributes to a deeper understanding of how experiential learning processes shape student development in IT-focused WIL contexts, offering both theoretical and practical insights into the design and implementation of client-based learning environments in higher education.

Methodology

Research Design

This study adopted a qualitative case study design to enable an in-depth exploration of a bounded system. A case study is particularly suited for researchers seeking an in-depth, longitudinal examination of a “bounded system” (Creswell and Poth 2018) which, in this instance, was a specific final-year IT project at a single South African HEI.

The study was conducted at a private HEI in South Africa that offers an IT qualification that incorporates a structured WIL component in the final year. The WIL module is project-based, requiring students to work in teams to develop solutions for real industry clients over a defined academic period. Students are expected to engage with clients, manage project timelines, and deliver functional outputs aligned with client requirements, with supervision provided by academic staff. Assessment is based on project deliverables, client interaction, and reflective engagement with the learning process.

This design enables the exploration of complex learning processes that are highly context-dependent (Yin 2018), aligning with the study's focus on the lived experiential learning of students as they navigate real-world client demands. Kolb and Kolb's ELT informed the design and interpretation of the study by providing a lens through which students' engagement, reflection, and adaptation during the WIL project could be examined.

Participants and Sampling

Purposive sampling was employed to select participants who could provide “information-rich” data regarding the phenomena of client-based WIL (Patton 2015). Two distinct participant groups were included:

- Student participants (n = 6): Six final-year IT students were selected. These students were all members of the same project team, ensuring a shared “concrete experience” as defined by Kolb and Kolb’s theory. This small, focused sample size (n = 6) is consistent with qualitative case study norms where the goal is depth of insight rather than statistical generalisability (Vasileiou et al. 2018).
- Industry client (n = 1): A single industry representative, acting as the project sponsor, was interviewed. While n = 1, the client’s role was critical for data triangulation (Flick 2018). By comparing student reflections with the client’s external professional assessment, the study achieved a “360-degree” view of the learning outcomes and professional growth observed during the project.

Data Collection Methods

Data were collected using semi-structured interviews and focus group discussions, which are widely used in qualitative research to explore participants’ experiences, perceptions, and meaning-making processes (Creswell and Poth 2018; Flick 2018).

Industry Client Interview

A one-on-one semi-structured interview lasting approximately 45–60 minutes was conducted with the industry client. The interview focused on the client’s perceptions of students’ ability to apply theoretical knowledge, engage professionally, respond to feedback, and manage project challenges. This method was important for capturing an external, industry-based perspective on student learning and performance during the WIL project.

Semi-structured interviews are particularly effective for exploring participants’ perspectives in depth while allowing flexibility to probe emerging issues (Creswell and Poth 2018).

Student Focus Groups

Two focus group discussions were conducted with the six final-year IT students involved in the project. Owing to scheduling constraints, the students were divided into two smaller groups of three participants each. While focus groups typically include larger numbers, smaller groups allowed for more in-depth discussion and ensured that each participant had sufficient opportunity to share their experiences. Each session lasted between 20 and 45 minutes. Focus groups were selected to facilitate interaction and shared reflection among participants, enabling them to build on one another’s experiences and generate collective insights (Flick 2018). The interview with the client and focus group discussions were audio-recorded with the participants’ consent and transcribed verbatim to ensure accuracy and depth of analysis.

Data Analysis

The data were analysed using reflexive thematic analysis, following the approach outlined by Braun and Clarke (2006, 2021). This method was selected as it provides a flexible yet systematic approach for identifying, analysing, and interpreting patterns of meaning within qualitative data, making it particularly suitable for exploring students' lived experiences in complex, real-world learning environments.

The analysis followed six phases. First, familiarisation with the data was achieved through repeated reading of interview and focus group transcripts, allowing the researcher to gain an overall understanding of participants' experiences. Second, initial codes were generated inductively by identifying meaningful segments of data relevant to the research questions. These codes were derived directly from participants' accounts rather than being imposed a priori. Third, codes were organised into potential themes by identifying patterns and relationships across the dataset. Fourth, these themes were reviewed and refined to ensure coherence within themes and clear distinctions between them. Fifth, themes were defined and named to capture their central organising concepts. Sixth, the themes were interpreted and presented in relation to the research questions and the broader study context (Braun and Clarke 2006).

While the coding process was primarily inductive, the interpretation of themes was informed by Kolb and Kolb's ELT. This theoretical lens enabled the analysis to move beyond surface-level description by examining how students' experiences reflected processes of concrete experience, reflective observation, abstract conceptualisation, and active experimentation. In this way, thematic analysis was used not only to identify patterns in the data but also to interpret how experiential learning unfolded within the client-based WIL context.

ATLAS.ti was used to support the organisation and management of data; however, the analytical process remained interpretive and researcher-driven, consistent with qualitative research principles.

Trustworthiness

To ensure the rigour of this qualitative study, strategies aligned with credibility, dependability, confirmability, and transferability were applied. These criteria were operationalised in relation to the study's focus on understanding how final-year IT students experience experiential learning within a client-based WIL context.

- Credibility was enhanced through data triangulation by incorporating both student and client perspectives. This was particularly important given the study's focus on experiential learning processes, as it enabled the comparison of students' self-reported experiences with the client's observations of their professional performance. Additionally, the use of focus groups facilitated shared reflection among students, aligning with the study's emphasis on how learning unfolds through interaction and experience. Verbatim quotations were used in the findings

to ensure that interpretations remained grounded in participants' lived experiences, thereby strengthening the authenticity of the analysis.

- Dependability was ensured through a systematic and transparent research process. A clear audit trail was maintained, documenting data collection procedures, coding decisions, and theme development. This was particularly important in relation to the study's use of thematic analysis, as it allowed for consistency in how experiential learning processes were identified and interpreted across the dataset. The use of a structured codebook further supported consistency in analysing how students engaged with stages of Kolb and Kolb's experiential learning cycle.
- Confirmability was addressed by ensuring that findings were derived from participants' accounts rather than researcher assumptions. This outcome was achieved through inductive coding, where themes emerged from the data, and through the consistent use of participant excerpts to support interpretations. The application of Kolb and Kolb's ELT as an analytical lens provided a structured framework for interpreting the data, reducing the risk of subjective bias while enabling deeper insight into how students experienced learning through practice, reflection, and adaptation.
- Transferability was supported through the provision of rich, contextual descriptions of the research setting, participants, and the client-based WIL project. By clearly situating the study within a South African private HEI context and an IT-specific WIL module, the study enables readers to assess the relevance and applicability of the findings to similar educational and disciplinary contexts. While the findings are not intended to be generalisable, they offer insights into experiential learning processes that may be applicable to comparable WIL environments.

Ethical Considerations

Ethical approval for the study was obtained prior to data collection. All participants received information sheets outlining the purpose of the study, procedures, and their rights as participants, and written informed consent was obtained. Participation was voluntary, and participants were informed of their right to withdraw at any stage without penalty.

Confidentiality and anonymity were ensured by removing identifying information from transcripts and using pseudonyms where necessary. Data were securely stored on password-protected devices accessible only to the researcher. As the study focused on professional learning experiences, potential risks were minimal; however, participants were given the option to pause or discontinue participation if they experienced discomfort.

Findings

This section presents the findings of the study, organised around five main themes and associated sub-themes. These themes reflect how final-year IT students experienced experiential learning within a client-based WIL project.

Table 1: Summary of themes identified in the study

Main Theme	Sub-Themes
Experiential Learning through Theory-Practice Integration	• Application of theoretical knowledge in real client contexts • Integration of knowledge across modules • Learning through real-world problem-solving
Reflective and Adaptive Learning Processes	• Reflection on project challenges and setbacks • Learning through iteration and feedback • Development of self-awareness and responsibility
Client Interaction as a Driver of Learning	• Communication practices and challenges • Role of feedback in shaping learning • Alignment between client expectations and student outputs
Professional Development in Collaborative Contexts	• Teamwork and group dynamics • Leadership and role negotiation • Development of professional and soft skills
Structural Conditions Shaping Learning Experiences	• Programme design and milestone structures • Variability in client engagement • Institutional constraints and inequities

Theme 1: Experiential Learning through Theory–Practice Integration

Students consistently described the WIL project as a critical space where theoretical knowledge became meaningful through application in a real client context. While concepts were introduced in earlier coursework, participants emphasised that these only gained practical relevance when they were required to deliver functional solutions aligned with client expectations.

Many students highlighted how knowledge from multiple modules converged during the project, indicating a shift from fragmented understanding to integrated application. One student noted, “I was surprised by how much theory from different modules came together on this project.” This indicates that learning was not isolated within disciplinary boundaries but emerged through engagement with complex, real-world tasks.

From an experiential learning perspective, this reflects concrete experience, where learning is initiated through direct engagement with authentic problems. However, students also acknowledged initial gaps in their preparedness, particularly in applying project management practices, indicating that integration of theory into practice required iterative learning.

Theme 2: Reflective and Adaptive Learning Processes

Reflection emerged as a central mechanism through which students made sense of their experiences and adapted their approaches. Participants described frequent moments of

reassessment, particularly when encountering missed deadlines, technical challenges, or team-related issues.

Reflection occurred both individually and collaboratively, often during team discussions or after client meetings. One participant stated, “Looking back, I can see how much I grew in handling pressure and deadlines.” These reflections enabled students to identify shortcomings in their initial strategies and adjust their approaches accordingly.

This aligns with reflective observation in Kolb and Kolb’s cycle, where learners critically evaluate their experiences. Importantly, reflection extended beyond technical problem-solving to include personal development, such as managing stress, responsibility, and motivation. This reinforces the role of WIL in facilitating both cognitive and affective learning processes.

Theme 3: Client Interaction as a Driver of Learning

Client engagement played a significant role in shaping students’ learning experiences. Interaction with the client introduced real-world expectations, accountability, and iterative feedback, which influenced how students approached their work.

However, communication practices were initially inconsistent. Several students reported relying heavily on informal platforms such as WhatsApp, which sometimes limited clarity. One student remarked, “We got too comfortable with WhatsApp instead of visiting.” This provides evidence that while communication was frequent, it was not always effective.

Client feedback acted as a catalyst for learning, prompting students to revise their work and adapt their solutions. As one participant explained, “After each meeting, we made sure to implement the suggestions before the next check-in.” This iterative process reflects active experimentation, where students tested and refined their approaches in response to feedback.

The client’s perspective supported this, noting improvements in alignment and responsiveness over time, indicating that learning was shaped through continuous interaction and adjustment.

Theme 4: Professional Development in Collaborative Contexts

The WIL project provided a context for developing professional skills through teamwork and collaboration. Students described navigating diverse personalities, unequal participation, and leadership responsibilities within their groups.

These challenges required students to engage in negotiation, delegation, and conflict management. One participant reflected, “I realised I had to manage people, not just

tasks.” This observation highlights the development of leadership awareness and professional identity.

Teamwork also contributed to the development of soft skills such as communication, confidence, and adaptability. Students reported increased confidence in presenting ideas and engaging with the client, suggesting that professional competence developed through sustained engagement with real-world expectations.

These experiences align with abstract conceptualisation, where students form new understandings of professional practice based on their experiences.

Theme 5: Structural Conditions Shaping Learning Experiences

While students valued the WIL experience, their learning was influenced by structural and programme-related factors. Participants identified issues such as uneven project timelines, inconsistent client engagement, and unclear initial documentation.

One student noted, “Some teams started later and struggled to finish on time,” indicating perceived inequities in project conditions. These factors affected students’ ability to fully engage with the learning process.

At the same time, structured milestones and supervisor support were identified as key enablers. Regular check-ins and guidance helped students stay on track and reflect on their progress.

These findings suggest that experiential learning is not only shaped by student engagement but also by the conditions under which learning occurs. Structural factors can either support or constrain students’ ability to move through the stages of the experiential learning cycle.

Discussion

This study explored how final-year IT students experienced experiential learning in a client-based WIL project. The findings indicate that experiential learning in this context is a dynamic and iterative process shaped by the integration of theory and practice, reflective engagement with challenges, interaction with clients, and the structural conditions of the programme. Rather than occurring as a linear progression, learning emerged through continuous movement between experience, reflection, conceptual understanding, and adaptation, consistent with Kolb and Kolb’s ELT.

In relation to the research question, these findings demonstrate that students experience experiential learning not as a structured sequence, but as a fluid and iterative process shaped by interaction with real-world constraints.

A key finding of the study is that client-based WIL creates a powerful context for integrating theoretical knowledge with real-world application. Students reported that knowledge acquired across multiple modules only became meaningful when applied to authentic client problems. This finding extends existing research that positions WIL as a critical mechanism for bridging the gap between academic learning and professional practice (Jackson and Dean 2023; Mutanga 2021). From an experiential learning perspective, this reflects the importance of concrete experience as the foundation for meaningful learning (Kolb and Kolb 2018). However, the findings also suggest that students are not always fully prepared to translate theoretical knowledge into practice, indicating the need for more scaffolded opportunities for applied learning earlier in the curriculum.

Reflection emerged as a central process through which students made sense of their experiences and developed professionally. Students described engaging in both individual and collective reflection, particularly in response to project challenges such as missed deadlines and technical difficulties. This aligns with research highlighting reflection as a key component of WIL and a critical mechanism for developing professional competence (Doolan et al. 2019; Jackson and Dean 2023). Within Kolb and Kolb's framework, these processes correspond to reflective observation, where learners critically evaluate their experiences to inform future action. Importantly, reflection extended beyond technical learning to include personal growth, suggesting that WIL supports both cognitive and affective dimensions of learning.

The findings further highlight the central role of client interaction in shaping experiential learning. Feedback from the client required students to continuously revise and refine their work, creating iterative cycles of learning. This finding supports previous studies that emphasise the importance of authentic stakeholder engagement in enhancing learning outcomes in WIL contexts (Govender and Taylor 2015; Srivastava and Haghi 2024). From a theoretical perspective, this process reflects active experimentation, where learners test and adapt their approaches in response to feedback. However, the reliance on informal communication platforms points to limitations in how client interaction is structured, suggesting that the quality of engagement, rather than its frequency, is critical for effective learning.

Collaborative work within teams also played a significant role in shaping students' learning experiences. Students developed professional skills such as communication, leadership, and conflict management through navigating group dynamics and shared responsibilities. These findings align with literature that highlights the role of WIL in fostering transferable skills essential for graduate employability (Adegbite and Hoole 2024; Dwesini 2017). Within Kolb and Kolb's model, these experiences contribute to abstract conceptualisation, as students develop new understandings of professional practice based on their experiences. Notably, learning in this context involved not only acquiring skills but also forming a professional identity.

Despite the positive learning outcomes, the study also identified several structural challenges that influenced students' experiences. Variations in project timelines, inconsistent client engagement, and unclear initial documentation created disparities in learning opportunities. These findings reflect broader challenges in WIL implementation identified in the literature (Doolan et al. 2019; Jackson 2024). These findings further highlight that experiential learning is not solely dependent on student engagement but is also shaped by programme design and institutional conditions. As such, the effectiveness of WIL cannot be assumed but must be carefully structured to ensure equitable and meaningful learning experiences.

Taken together, the findings indicate that experiential learning in client-based WIL contexts is a complex and context-dependent process that requires the alignment of multiple elements, including curriculum design, client engagement, and structured support. The study contributes to the literature by shifting the focus from outcomes to learning processes, demonstrating how students actively construct knowledge through interaction, reflection, and adaptation. This shift in focus not only reinforces existing conceptualisations of experiential learning in WIL but also challenges outcome-focused approaches by demonstrating the importance of examining learning as a situated and context-dependent process.

These findings have important implications for the design and implementation of WIL programmes. Institutions should consider integrating scaffolded client-based learning experiences earlier in the curriculum to better prepare students for final-year projects. Additionally, establishing clearer structures for client communication and ensuring consistency in project conditions can enhance the quality of learning experiences. By aligning programme design with the principles of experiential learning, higher education institutions can better support the development of work-ready graduates in IT and related disciplines.

Collectively, these findings extend current understandings of WIL by demonstrating that experiential learning is not only shaped by participation in workplace activities, but by the dynamic interaction between curriculum design, client engagement, and reflective practice within specific institutional contexts.

Recommendations

Based on the study findings, the following recommendations are proposed:

1. Introduce scaffolded client-based learning earlier in the curriculum: To better prepare students for final-year WIL projects, institutions should embed smaller, structured client-based or project-based tasks in earlier years of study. For example, second- and third-year modules can include short industry-informed projects that require students to engage with basic client requirements, present solutions, and reflect on their experiences. This would support the gradual development of skills related to problem-

solving, communication, and teamwork before students engage in high-stakes final-year projects.

2. Standardise project timelines and deliverables across all student teams: To address inconsistencies in learning experiences, WIL coordinators should implement a unified project schedule with clearly defined milestones for all teams. This schedule should include:

- A standardised project start date
- Weekly or bi-weekly deliverables
- Clearly defined submission checkpoints

This approach would ensure equitable learning conditions and reduce the risk of delayed project initiation affecting student performance.

3. Formalise client communication protocols: Institutions should establish clear guidelines for student–client interaction at the start of the WIL project. These guidelines should include:

- Designated communication platforms (e.g., email, MS Teams)
- Scheduled formal meetings (e.g., weekly check-ins)
- Documentation of client feedback after each interaction

This would improve communication clarity, promote professionalism, and ensure that feedback is consistently integrated into student work.

4. Strengthen supervisory support through structured engagement: Supervisors should adopt a more structured approach to student support by implementing:

- Scheduled one-on-one supervision sessions
- Progress tracking through milestone reviews
- Guided reflective discussions linked to project experiences

This approach would facilitate students in navigating challenges, encourage reflective learning, and ensure alignment between academic expectations and project requirements.

5. Improve project briefing and documentation at project initiation: Clear and comprehensive project documentation should be provided at the outset of the WIL project. This documentation should include:

- Detailed project scope and objectives
- Defined roles and responsibilities
- Expected deliverables and timelines

Providing this clarity early in the project would reduce uncertainty, improve planning, and enable students to engage more effectively with their tasks.

6. Ensure equitable client engagement across all student groups: Institutions should monitor and regulate client involvement to ensure consistency across teams by:

- Setting minimum expectations for client interaction
- Providing orientation or guidelines for clients
- Monitoring engagement through supervisor check-ins

This approach would help minimise disparities in learning experiences caused by varying levels of client availability and involvement.

Conclusion

This study explored how final-year IT students experienced experiential learning within a client-based WIL project at a private HEI in South Africa. By applying an experiential learning lens, the study examined how students engaged with real-world challenges, reflected on their learning, and adapted their practices in response to client interaction, teamwork dynamics, and structural programme conditions.

The findings demonstrate that client-based WIL provides a meaningful context for integrating academic theory with professional practice. Students' learning extended beyond technical skill development to include reflection, adaptation, and the formation of professional identity. Through sustained engagement with authentic tasks and stakeholder expectations, students developed increased confidence, improved communication skills, and greater professional awareness. At the same time, the study highlights that experiential learning is shaped not only by student engagement, but also by the quality of supervision, client interaction, and programme structure.

Importantly, the study contributes to the WIL literature by shifting the focus from outcomes to learning processes, offering insight into how experiential learning unfolds within IT-focused, client-based environments. These findings reinforce the value of experiential learning as a pedagogical approach for preparing graduates for complex and evolving professional contexts.

However, several limitations should be acknowledged. The study was conducted within a single private HEI, which may limit the transferability of the findings to other institutional contexts. Additionally, the sample size was small and focused on one student group and a single client, which may not capture the full diversity of WIL experiences. The reliance on self-reported data from students may also introduce potential bias, as participants may reflect positively or selectively on their experiences. Furthermore, the study examined learning within a specific IT-focused WIL project, and findings may not fully generalise to other disciplines or WIL models.

Despite these limitations, the study provides valuable insights into how experiential learning is constructed within client-based WIL environments, offering a foundation for future research and practice in higher education. Future research could expand this work

by examining multiple institutions, larger and more diverse student cohorts, and comparative WIL models across disciplines. Such research would further strengthen our understanding of how experiential learning can be effectively designed and supported within higher education.

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